CLAIMS

1. A method of providing services to user equipment in a communications network including a database storing subscriber information regarding users of the user equipment obtaining the services, a policy enforcement entity to which the user equipment is coupled to obtain connection to sessions and a policy decision entity which is coupled to the policy enforcement entity and to the database which determines policy governing the providing of the services from at least one network or server coupled to the policy decision entity, the method comprising:

providing from the database to the policy decision entity the subscriber information regarding permitted conditions for the users to obtain the services;

providing service provider information from the at least one network or server regarding the services offered to the user equipment, which is utilized by the policy decision entity; and

forming policy rules at the policy decision entity based upon the subscriber information and the service information; and wherein

a requesting user equipment transmits a request for a session to the communications network which is processed by the policy decision entity in accordance with the policy rules to determine if a session is to be allowed and if the session is allowed determining characteristics of the service to be provided to the requesting user equipment and the policy enforcement entity enforces at least one characteristic of an allowed session upon the communication network to

insure that the allowed session obtained by the requesting user equipment has the at least one characteristic of the allowed session.

2. A method in accordance with claim 1 wherein:

the policy decision entity is a policy control function.

3. A method in accordance with claim 1 wherein:

the policy enforcement entity is a Gateway General Packet Radio Access Node (GGSN).

4. A method in accordance with claim 1 wherein:

the subscriber information comprises allowed services which may be provided to the user equipment by the at least one network or server.

5. A method in accordance with claim 4 wherein:

the allowed services are defined by a service name, a quality of service class and a bit rate at which the requested session is provided to the requesting user equipment by the at least one network or server.

6. A method in accordance with claim 2 wherein:

the subscriber information comprises allowed services which may be provided to the user equipment by the at least one network or server.

7. A method in accordance with claim 6 wherein:

the allowed services are defined by a service name, a quality of service class and a bit rate at which the requested session is provided to the requesting user equipment by the at least one network or server.

8. A method in accordance with claim 3 wherein:

the subscriber information comprises allowed services which may be provided to the user equipment by the at least one network or server.

9. A method in accordance with claim 8 wherein:

the allowed services are defined by a service name, a quality of service class and a bit rate at which the requested session is provided to the requesting user equipment by the at least one network or server.

10. A method in accordance with claim 1 wherein;

the requests for sessions are transmitted to the policy enforcement entity and from the policy enforcement entity to the policy decision entity; and wherein

an identification and an access point name of the at least one network or server from which the session is requested is transmitted to the policy decision entity and to a system, including the database, which in response thereto transmits a list of services allowed to be provided to the requesting user equipment.

11. A method in accordance with claim 10 wherein:

the list of services includes a service name, quality of service class and an allowed bit rate is processed by the policy decision entity as part of forming the policy rules.

12. A method in accordance with claim 4 wherein;

the service information comprises quality of service information.

13. A method in accordance with claim 12 wherein:

the quality of service information comprises bandwidth.

14. A method in accordance with claim 5 wherein;

the service information comprises quality of service information.

15. A method in accordance with claim 14 wherein:

the quality of service information comprises bandwidth.

16. A method in accordance with claim 6 wherein;

the service information comprises quality of service information.

17. A method in accordance with claim 16 wherein:

the quality of service information comprises bandwidth.

18. A method in accordance with claim 7 wherein;

the service information comprises quality of service information.

19. A method in accordance with claim 18 wherein:

the quality of service information comprises bandwidth.

20. A method in accordance with claim 4 wherein;

the requests for sessions are transmitted to the policy enforcement entity and from the policy enforcement entity to the policy decision entity; and

an identification and an access point name of the at least one network or server from which the session is requested is transmitted to the policy decision entity and to a system, including the database, which in response thereto transmits a list of services allowed to be provided to the requesting user equipment.

21. A method in accordance with claim 5 wherein;

the requests for sessions are transmitted to the policy enforcement entity and from the policy enforcement entity to the policy enforcement entity; and

an identification and an access point name of the at least one network or server from which the session is requested is transmitted to the policy decision entity and to a system, including the database, which in response thereto transmits a list of services allowed to be provided to the requesting user equipment.

22. A method in accordance with claim 11 wherein;

the requests for sessions are transmitted to the policy enforcement entity and from the policy enforcement entity to the policy enforcement entity; and

an identification and an access point name of the at least one network or server from which the session is requested is transmitted to the policy decision entity and to a system, including the database, which in response thereto transmits a list of services allowed to be provided to the requesting user equipment.

23. A method in accordance with claim 12 wherein;

the requests for sessions are transmitted to the policy enforcement entity and from the policy enforcement entity to the policy enforcement entity; and

an identification and an access point name of the at least one network or server from which the session is requested is transmitted to the policy decision entity and to a system, including the database, which in response thereto transmits a list of services allowed to be provided to the requesting user equipment.

24. A system for controlling the providing of service to user equipment comprising:

a communication system including a database storing subscriber information regarding subscription of users of the user equipment to obtain sessions of the services, a policy enforcement entity to which the user equipment is coupled to obtain the services, and a policy decision entity which is coupled to the policy enforcement entity and to the database; and

at least one network or server which is coupled to the policy decision entity that provides the sessions of the services to the user equipment through the policy decision entity; and wherein

the at least one network or server provides service information to the policy decision entity regarding the sessions of the services which are offered to the user equipment, the database provides the stored subscriber information to the policy decision entity regarding subscription of the users of the user equipment to obtain the sessions of the services provided by the at least one network or server, the policy decision entity formulates policy rules defining characteristics of the sessions which may be obtained by users of the user equipment from the at least one network or server in response to the subscriber information and the service information and the policy enforcement entity in response to the policy rules enforces the obtaining of the sessions of the services by the user equipment through the wireless system in accordance with at least one characteristic.

25. A system in accordance with claim 24 wherein:

the policy decision entity is a policy control function.

26. A system in accordance with claim 24 wherein:

the policy enforcement entity is a Gateway General Packet Radio Access Node (GGSN).

27. A system in accordance with claim 24 wherein:

the characteristics comprise a name of service, quality of service and a bit rate of the session to be provided to a requesting user equipment.

28. A system in accordance with claim 25 wherein:

the characteristics comprise a name of service, quality of service and a bit rate of the session to be provided to a requesting user equipment.

29. A system in accordance with claim 26 wherein:

the characteristics comprise a name of service, quality of service and a bit rate of the session to be provided to a requesting user equipment.

30. A system in accordance with claim 24 wherein:

the subscriber information comprises allowed services which may be provided to the user equipment.

31. A system in accordance with claim 30 wherein:

the allowed services are defined by information including a service name, a quality of service class and a bit rate at which the requested session is provided to the requesting user equipment.

32. A system in accordance with claim 30 wherein:

the service information comprises quality of service information.

33. A system in accordance with claim 32 wherein:

the quality of service information comprises bandwidth.

34. A system in accordance with claim 31 wherein:

the service information comprises quality of service information.

35. A system in accordance with claim 34 wherein:

the quality of service information comprises bandwidth.

36. In a system for controlling the providing of services to user equipment comprising a communication system including a policy enforcement entity to which the user equipment is coupled to obtain the services, and a policy decision entity which is coupled to the policy enforcement entity and to a database, and at least one network or server which is coupled to the policy decision entity that provides the services to the user equipment through the policy enforcement entity, an entity comprising:

a database in the communication system which stores subscriber information regarding subscription of users of the user equipment to obtain the services from the at least one network or server; and wherein

the at least one network or server provides service information to the policy decision entity regarding the services which are offered to the user equipment, the database provides the stored subscriber information to the policy decision entity regarding subscription of the users of the user equipment to obtain the services provided by the at least one network or server, the policy decision entity formulates policy rules defining characteristics of the services which may be obtained by users of the user equipment from the at least one network or server in response to the subscriber information and the service information and the policy enforcement entity in response to the policy rules enforces the obtaining of the services by the user equipment through the system in accordance with at least one characteristic.

37. An entity in accordance with claim 36 wherein:

the policy decision entity is a policy control function.

38. An entity in accordance with claim 36 wherein:

the policy enforcement entity is a Gateway General Packet Radio Access Node (GGSN).

39. An entity in accordance with claim 36 wherein:

the characteristics comprise a name of service, quality of service and a bit rate of the session to be provided to a requesting user equipment.

40. An entity in accordance with claim 37 wherein:

the characteristics comprise a name of service, quality of service and a bit rate of the session to be provided to a requesting user equipment.

41. An entity in accordance with claim 38 wherein:

the characteristics comprise a name of service, quality of service and a bit rate of the session to be provided to a requesting user equipment.

42. An entity in accordance with claim 36 wherein:

the subscriber information comprises allowed services which may be provided to the user equipment.

43. An entity in accordance with claim 42 wherein:

the allowed services are defined by information including a service name, a quality of service class and a bit rate at which the requested session is provided to the requesting user equipment.

44. An entity in accordance with claim 42 wherein:

the service information comprises quality of service information.

45. An entity in accordance with claim 44 wherein:

the quality of service information comprises bandwidth.

46. An entity in accordance with claim 45 wherein:

the service information comprises quality of service information.

47. An entity in accordance with claim 46 wherein:

the quality of service information comprises bandwidth.

48. In a communications system including a policy enforcement entity to which user equipment is coupled to obtain connection to services and a policy decision entity which is coupled to the policy enforcement entity which determines policy governing the providing of the services from at least one network or server coupled to the policy decision entity, wherein service information is provided from at least one network or server, regarding service offered by the at least one network or server to the user equipment, which is utilized by the policy decision entity to formulate, policy rules based upon subscriber information and the service information, and a requesting user equipment transmits a request for a service with at least one of the at least one network or server which is processed in accordance with the policy rules to determine if the service is to be allowed and if the service is allowed determining characteristics of the service to be provided to the requesting user equipment and the policy enforcement entity enforces at least one characteristic of an allowed service upon the communication network to insure that the allowed service obtained by the requesting user equipment has the at least one characteristic of the allowed service, a method comprising:

providing from a database to the policy decision entity the subscriber information regarding permitted conditions for the user equipment to obtain the service which is used by the policy decision entity as part of the formulation of the policy rules; and

the policy entity enforces providing the service to the user equipment in accordance with the at least one characteristic of the allowed service.

49. A method in accordance with claim 48 wherein:

the policy decision entity is a policy control function.

50. A method in accordance with claim 48 wherein:

the policy enforcement entity is a Gateway General Packet Radio Access Node (GGSN).

51. A method in accordance with claim 48 wherein:

the subscriber information comprises allowed services which may be provided to the user equipment by the at least one network or server.

52 A method in accordance with claim 51 wherein:

the allowed services are defined by a service name, a quality of service class and a bit rate at which the requested session is provided to the requesting user equipment by the at least one network or server.

53. A method in accordance with claim 49 wherein:

the subscriber information comprises allowed services which may be provided to the user equipment by the at least one network or server.

54. A method in accordance with claim 53 wherein:

the allowed services are defined by a service name, a quality of service class and a bit rate at which the requested session is provided to the requesting user equipment by the at least one network or server.

55. A method in accordance with claim 50 wherein:

the subscriber information comprises allowed services which may be provided to the user equipment by the at least one network or server.

56. A method in accordance with claim 55 wherein:

the allowed services are defined by a service name, a quality of service class and a bit rate at which the requested session is provided to the requesting user equipment by the at least one network or server.

57. A method in accordance with claim 49 wherein;

the requests for services are transmitted to the policy enforcement entity and from the policy enforcement entity to the policy decision entity; and wherein

an identification and an access point name of the at least one network or server from which the service is requested is transmitted to the policy decision entity and to a system, including the database, which in response thereto

transmits a list of services allowed to be provided to the requesting user equipment.

58. A method in accordance with claim 51 wherein;

the service information comprises quality of service information.

59. A method in accordance with claim 58 wherein:

the quality of service information comprises bandwidth.

60. A method in accordance with claim 52 wherein;

the service information comprises quality of service information.

61. A method in accordance with claim 60 wherein:

the quality of service information comprises bandwidth.

62. A method in accordance with claim 53 wherein;

the service information comprises quality of service information.

63. A method in accordance with claim 62 wherein:

the quality of service information comprises bandwidth.

64. A method in accordance with claim 54 wherein;

the service information comprises quality of service information.

65. A method in accordance with claim 64 wherein:

the quality of service information comprises bandwidth.

66. A method in accordance with claim 51 wherein;

the requests for services are transmitted to the policy enforcement entity and from the policy enforcement entity to the policy enforcement entity; and

an identification and an access point name of the at least one network or server from which the service is requested is transmitted to the policy decision entity and to a system, including the database, which in response thereto transmits a list of services allowed to be provided to the requesting user equipment.

67. A method in accordance with claim 52 wherein;

the requests for services are transmitted to the policy enforcement entity and from the policy enforcement entity to the policy enforcement entity; and

an identification and an access point name of the at least one network or server from which the service is requested is transmitted to the policy decision entity and to a system, including the database, which in response thereto

transmits a list of services allowed to be provided to the requesting user equipment.

68. A method in accordance with claim 58 wherein;

the requests for services are transmitted to the policy enforcement entity and from the policy enforcement entity to the policy enforcement entity; and

an identification and an access point name of the at least one network or server from which the service is requested is transmitted to the policy decision entity and to a system, including the database, which in response thereto transmits a list of services allowed to be provided to the requesting user equipment.

69. A method in accordance with claim 1 wherein:

the policy rules are default policy rules when the subscriber information is not available which is not dependent upon information the varies with different subscribers.

70. A method in accordance with claim 1 wherein:

the communications network is a packet switched network.

71. A system in accordance with claim 24 wherein:

the communications network is a packet switched network.

72. An entity in accordance with claim 36 wherein:

the communications network is a packet switched network.

73. A method in accordance with claim 48 wherein:

the communications network is a packet switched network.